

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4 are presently active in this case, Claim 1 having been amended by way of the present Amendment.

The Applicants submit that no new matter has been added. The amendment to Claim 1 has support in the original specification, for example, on page 2, lines 30-35.

In the outstanding Official Action, Claims 1-4 were rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1, 2, 4, 14, and 15 of U.S. Patent No. 6,677,557. In response to the obviousness-type double patenting rejection based upon U.S. Patent No. 6,677,557, the Applicants have timely submitted herewith a Terminal Disclaimer in compliance with 37 CFR 1.321(c), which obviates this rejection. Accordingly, the Applicants respectfully request the withdrawal of the obviousness-type double patenting rejection based upon U.S. Patent No. 6,677,557.

Claims 1 and 3 were rejected under 35 U.S.C. 102(e) as being anticipated by Kano et al. (U.S. Patent No. 6,242,719). Claims 1-4 were rejected under 35 U.S.C. 102(b) as being anticipated by Nobori et al. (U.S. Patent No. 5,616,024). For the reasons discussed below, the Applicants request the withdrawal of the anticipation rejections.

In the Office Action, the Kano et al. reference and the Nobori et al. reference are indicated as anticipating independent Claim 1. However, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of*

California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the Kano et al. reference and the Nobori et al. reference clearly do not meet each and every limitation of amended independent Claim 1.

Claim 1 of the present application recites a ceramic substrate having a heating element composed of one or more circuit(s) on a surface thereof or inside thereof, and a through hole configured to receive a lifter pin or a supporting pin inserted therein being made in the ceramic substrate. The heating element circuit is formed in the range of 20 mm or less from the inner wall of the through hole. The Applicants submit that the Kano et al. reference and the Nobori et al. reference do not disclose all of the above limitations.

The Kano et al. reference describes an integrated type multiple-layered ceramic heater. The heater (1) includes an electrical insulating ceramic support substrate (2), a heater pattern (3) as a heat generating member composed of electroconductive ceramic or metal, which is adhered to the surface of the substrate (2), and an electrical insulating ceramic protective layer (4) covering the heater pattern (3). The heat generating member is provided with two feeding terminals (5) at its peripheral portion. The feeding terminals (5) are connected to an external power source. One terminal of the feeding terminals is connected to the heater (1) with a bolt (7) passed through the terminal hole and a nut, and the other terminal of the feeding terminals is connected to a power terminal member.

The Applicants submit that the Kano et al. reference does not disclose or even suggest a through hole configured to receive a lifter pin or a supporting pin inserted therein being made in the ceramic substrate, as expressly recited in Claim 1 of the present application. The

only apertures in the substrate (2) of the Kano et al. reference are provided for the feeding terminals (5). Such features are not configured to receive a lifter pin or a support pin.

Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 1 based upon the Kano et al. reference.

The Nobori et al. reference describes a ceramic heater composed of a ceramic substrate and a resistant heating element embedded within the substrate. The electroconducting body is embedded within the ceramic substrate and a conduit or pit is bored avoiding the electroconducting body in the ceramic substrate. An X-ray transmission photograph of the ceramic substrate is taken and then the conduit or pit is formed based on the X-ray transmission photograph.

The Official Action directs the Applicants' attention to Figure 31 for a teaching regarding the distance between the inner wall of the through hole and the heating element. However, Figure 31 does not depict a through hole configured to receive a lifter pin or a supporting pin inserted therein being made in the ceramic substrate, as expressly recited in Claim 1 of the present application. In fact, Figure 31 does not depict any type of through hole. Thus, the Applicants submit that it is improper to infer from this figure a particular distance between the heating element (97) and a non-existent through hole. The Nobori et al. reference does not state that a through hole will be formed in the space between the heating element (97) and the adjacent heating element depicted in Figure 31. In fact, as noted in Figure 19, the Nobori et al. reference specifically describes bent portions (67) that are provided in the heating element (66) in areas around feature 68. Thus, it is unclear from the

Nobori et al. reference exactly how much distance is present between the heating elements in the Nobori et al. reference and feature 68 in Figure 19.

Additionally, the Applicants note that the Nobori et al. reference does not indicate what feature reference numeral 68 represents. This feature is shown in phantom lines, thus this feature does not appear to be a through hole. Furthermore, the Nobori et al. reference states that “[i]n the portion half-surrounded with the bent portion 67, a conduit or pit is bored.” (Column 23, lines 59-60.) However, the Nobori et al. reference does not teach that the conduit or pit is a through hole configured to receive a lifter pin or a supporting pin inserted therein, as expressly recited in Claim 1 of the present application. The Applicants submit that it is more likely that the conduit or pit is for positioning a thermocouple for temperature measurement or for flowing gases as are the pit (74) and the conduit (75) in Figure 22(b). (Column 24, lines 66-67.) Also, the Applicants note that in Figure 24(b), while conduits (81) are bored through apertures (80), there is no teaching of a distance between the conduit (81) and the aperture (80).

Accordingly, the Applicants respectfully submit that the Nobori et al. reference does not disclose or suggest a through hole configured to receive a lifter pin or a supporting pin inserted therein being made in the ceramic substrate, as expressly recited in Claim 1 of the present application. Thus, the Nobori et al. reference also does not disclose or suggest a heating element circuit that is formed in the range of 20 mm or less from an inner wall of such a through hole. Therefore, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 1 based upon the Nobori et al. reference.

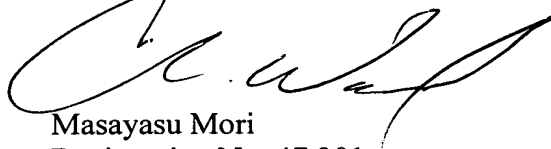
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Reply to Office Action dated December 13, 2004

Claims 2-4 are considered allowable for the reasons advanced for Claim 1 from which they depend.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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